

8/22/19

EPA ORD & NC DAQ PFAS Meeting

DAQ Agenda Items:

Opportunity to connect with our EPA partners and discuss EPA & DAQ status on several topics. DAQ & EPA have been in contact on several subject areas including:

- **Source Sampling –**
 - Technical review & advice for stack sampling GenX
 - Other PFAS specifically from Chemours
 - Total Organic Fluorine
- **Split samples – ORD (originally SESD lab)**
- **Rainwater sampling – samples sent to ORD**
- **Modeling – Fate & Transport**
 - EPA PFAS Gap Analysis paper
- **Ambient Monitoring**

Attending – Carol Kemker, Becky Allenbach, Brian Glenn, Tom Pierce, Ben Murphy, Michael Pjetraj, Tim Watkins, Mike Abraczinskas, Mark Strynar, James McCord, John Offenburg, Jeff Ryan, Ray Merrill, Stef Johnson, Beth Happsipple, Nancy Jones, Gary Saunders, Miriam _____, Tim Buckley

References for Attendees:

DEQ GenX general website – includes consent order and links to all media actions:

[HYPERLINK "<https://deq.nc.gov/news/key-issues/genx-investigation>"]

Air Quality Sampling site – includes all source tests and rainwater results:

[HYPERLINK "<https://deq.nc.gov/news/key-issues/genx-investigation/air-quality-sampling>"]

General notes & Highlighted Action Items & Updates:

- Carol Kemker welcomed everyone, opened the meeting & initiated a round of introductions
- Mike Abraczinskas opened the DAQ discussion thanking everyone for meeting and a background discussion of the Chemours facility, DAQ's source emissions and ambient measurements, the Consent Order, and numerous other activities we have taken. Mike also thanked the EPA for their partnership in several facets of this project.
- After a review of the above agenda items, discussions included:
- Jeff Ryan – Recently completed a site visit to Chemours W.Va. Received extracts from the thermal oxidizer (TO) test runs – exhaust only. ORD is performing non-targeted analysis. ORD is concerned about PIC formation.
- EPA asked if we have other PFAS facilities remediation sites of concern. EPA is looking at soil remediation / burning sources in Alaska. DAQ discussed work reviewing emission inventories at select industries. DAQ also discussed recent work with a foam manufacturer & their waste disposal site. Those investigations are ongoing.
- Questions about the Thermal Oxidizer – DAQ discussed timeline & progress.
- Discussion of past emissions profiles and contributions to the environment. Tim Buckley asked if we have evaluated the ambient loading and deposition over years. DAQ stated that they have measured current emission rates & required reductions. We are also measuring current deposition. DAQ has discussed the increased emissions estimates with Chemours and how it would have affected historic emissions inventories.
- Research methods going forward – what is associated with thermal technologies including PICs – Semi Vol/Vol/Pola/Non-polar compounds

- ORD is interested in pre sample surrogates & additional extractions
 - Chemours uses NaOH extractaion
 - ORD would like to perform methanol extraction – see a whole different layer of compounds
 - Need 2nd isotopically labeled standard for good QA
 - Report #6 from NH - [[HYPERLINK](https://www4.des.state.nh.us/OneStopPub/Air/330110016506202019TypeCR.pdf) "https://www4.des.state.nh.us/OneStopPub/Air/330110016506202019TypeCR.pdf"]
- EPA is interested in collecting source test samples from Chemours Fayetteville facility – Discussion between EPA, Chemours & DAQ needed. DAQ will initiate.
 - 9/13/19 Update – DAQ has spoken with Chemours regarding EPA collecting effluent samples & does not object. Michael Pjetraj needs an EPA contact to further discussions with Chemours
- Tim Buckley – ORD has been developing a Study Plan which is more encompassing than a QAP
- Question Jeff Ryan about testing at WVa & NH – is EPA contracting the tester? No – just getting split samples or extra sample trains being run from the EPA.
- Gary & Jeff Ryan discussed MM5 & methanol train relative to GenX & PFOA
- The “Table 3” compounds, found in Appendix C in the consent order ([[HYPERLINK](https://deq.nc.gov/news/key-issues/genx-investigation/chemours-consent-order-february-2019) "https://deq.nc.gov/news/key-issues/genx-investigation/chemours-consent-order-february-2019"]) were discussed. These compounds have been described as more of the “Chemours fingerprint” than the method 537 compounds.
- DAQ will facilitate communication between DEQ, Chemours & EPA on Air Total Fluorine methodology. EPA stated that it is part of their research planning – just in the discussion stages, some equipment has been purchased by OAQPS
 - 9/13/19 Update – DAQ has spoken with Chemours regarding EPA assisting with an Air Total Fluorine Methodology. Chemours stated that they welcome EPA’s assistance and communication. Contact with Chemours contractors needs to be initiated through Chemours. Michael Pjetraj needs an EPA contact to further discussions with Chemours.
- Rainwater deposition discussion
 - Mark Strynar stated that they have received 4 samples from Jim Bowyer
 - ORD has performed Appendix C (Table 3) compound analysis
 - Some items may not be specifically ascribed to only Chemours
 - Mark Strynar will run a summary report through the QA chain
 - Nothing too surprising.
 - One odd ball – isomers changes – 2 peaks – same MW, but different
 - We discussed throughfall results from Spring 2018 & a compound that appeared to be GenX on a lower resolution GC, but was determined to not be GenX on a higher resolution GC.
- Source Test Split Samples:
 - ORD has received 237+ samples. Kay Sullivan reached out to DEQ (?)/R4 – Sarah Watters
 - ORD will requests a prioritization of samples
 - Waiting on Research Plan
 - Does EPA need anything from DAQ to initiate split sample analysis? Need DAQ research plan contact person - Make Gary Saunders & Michael Pjetraj the contacts
 - 9/13/19 Update – Sara Waterson, EPA R4, conference called with Mike Abraczinskas and Michael Pjetraj on 8/26/19. Sara forwarded a draft plan to Gary Saunders and Michael Pjetraj on 9/4/19. Draft edits to the plan will be returned to Sara on 9/13/19.

- Mark Strynar will supply Gary Saunders a list of tests & split samples. Gary will provide a prioritization on the order of sample analysis
- Leaks & LDAR
 - EPA suggested DAQ contact Nicky Radford – Todd Russo & Jason Dressler regarding EPA's monitoring capability.
 - 9/13/19 Update – Michael Pjetraj, Gary Saunders, and Steve Hall (DAQ) have had two conference calls with Todd Russo, Jason Dressler, Nicky Radford and Stephen Rieck (EPA R4) on 8/29/19 and 9/5/19. EPA staff is communicating with headquarters to determine if a specific Flir Camera model is available. R4 also suggested TVAs and other tools to monitor for leaks. R4 is also sharing information on leak detection protocols and other monitoring protocols at additional PFAS intensive facilities in the southeast.
 - We discussed the potential for EPA R4 to be on site at Chemours in early November and requested that they calendar a site visit. Michael Pjetraj has communicated with Chemours and they do not object to EPA and DAQ staff being on site conducting leak detection work.
 - DAQ has asked additional questions of Chemours regarding their enhanced leak detection program.
- Concern about emissions/modeling/deposition values
 - DAQ discussed the Consent Order & required air emissions reductions based on rainwater deposition that would contribute to groundwater violations. DAQ expected that as emissions were reduced, we would measure less deposition in rainwater. The 2019 data does not correlate reported emission reductions with rainwater deposition measurements.
 - Nancy Jones discussed the modeling that has been performed using Aermid & the outputs that suggest dry deposition to be 20-100x greater than wet deposition
 - Nancy was provided James Thurmond at OAQPS as an Aermid PFAS deposition contact. Nancy will initiate contact with Mr. Thurmond. It was stated that he is working on method 2 which deals with the size of particles. Nancy stated that DAQ has operated under the belief that all GenX rapidly becomes aerosols in the atmosphere and is not in the vapor phase.
- Mark Strynar stated that he will send out the EPA PFAS Chemistry dashboard website link.
- Ambient – fencline monitoring
 - There was a discussion on transeaporation from trees and the potential for an ambient study on GenX levels.
 - John Offenburg stated that he still has a permit valid through the end of 2019 to operate equipment at the Cape Fear Lock & Dam #3 adjacent to the Chemours property. He currently does not have a CEMs operator due to personnel issues. The monitor could evaluate real time gas phase only "tens" of PPT by volume for compounds containing "OH".
 - It is on the list of things for ORD to do.
 - Jeff Ryan indicated that they are looking into making it portable. The EPA had a discussion of potentially working with UNC for an operator.
 - Michael Pjetraj emphasized that Chemours claims to already have controlled their emissions by up to 92%. Starting in December 2019, the TO will be in operation with a 99.99% DE. The Consent Order requires a 99% reduction from the 2307.2#/yr facility wide (including fugitives) 2017 baseline creating a cap of 23#/yr. The opportunity to measure atmospheric levels pre control is closing rapidly.

- Michael also suggested that DAQ discuss with Chemours the potential of using the ambient CEMS on Chemours property – essentially locate it at different sites close to the process to evaluate ambient concentrations and claimed emissions reductions.
 - 9/13/19 Update – Michael Pjetraj has verbally spoken with Chemours regarding the potential for EPA and DAQ to perform ambient sampling on Chemours property. Chemours did not object. Michael Pjetraj needs an EPA contact to initiate communication and a schedule with Chemours.
- There was a discussion of topic specific calls – basically taking each of the agenda items & having periodic calls to discuss ideas, data needs, and progress. Carol Kemker stated that Region 4 would take on the role of coordinating communications/meetings/calls between R4, ORD & NCDEQ. She also stated that the coordination should become more multi-media.

Jeff Ryan indicated that there will be a Regional-ORD Community of Science Networking (ROCS-Net) meeting at RTP on 9/17-19/2019.

- 9/13/19 Update – Nancy Jones will attend a modeling session on 9/18. Michael Pjetraj will attend the morning session on 9/19.

Jeff Ryan asked about contacting Susan Richardson, USC, directly regarding the Total F method. Michael Pjetraj committed to communicating with Chemours 1st & then responding to Jeff.

- 9/13/19 Update – DAQ has spoken with Chemours regarding EPA assisting with an Air Total Fluorine Methodology. Chemours stated that they welcome EPA's assistance and communication. Contact with Chemours contractors needs to be initiated through Chemours. Michael Pjetraj needs an EPA contact to further discussions with Chemours